

A “Snap Shot” of Monitoring Being Done After the Animas River Gold King Mine Spill Incident

(As of: 11/17/15)

This handout is meant to be a *simple* quick list of the types of monitoring occurring after the Gold King Mine Spill Incident. It is not meant to provide any monitoring data or analyses of it or to identify needs or gaps. It is a “broad brush” look at who is doing what. Please contact the various entities for more information or visit their Web sites. If there are additional entities who would like to state what they are doing, this document can be expanded. These reports are listed in alphabetical order.

1. Animas River Stakeholders Group (ARSG)

Provided by: Peter Butler, Co-Coordinator of ARSG, 970-259-0986 or Cell: 970-317-0584

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Web site: <http://animasriverstakeholdersgroup.org>.

The ARSG has not done much monitoring in recent years because many government agencies are taking samples. We spend a lot of time analyzing the results. This year we collected water samples for tributaries to Mineral Creek for which there is very little data. We also collected samples at the Bandora mine in South Mineral Creek and the Royal Tiger mine and Silver Lake high up in Arrastra Gulch. ch.

2. Animas Watershed Partnership

Provided by Ann Oliver, AWP Coordinator

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Web site: <http://animaswatershedpartnership.org/>

The Animas Watershed Partnership has conducted several water quality sampling efforts since 2002, focused on understanding nutrient loading, turbidity and sedimentation and bacterial levels, in the mainstem, Lightner Creek and the Florida River. This data is currently available upon request and will soon be available on the Colorado Data Sharing Network. Currently, Animas Watershed Partnership is engaged in the following Water Quality sampling efforts:

-AWP is sampling nutrients, -E.coli and turbidity, at 5 sites: the Animas River just upstream of Florida; Florida River just upstream of Animas; Salt Creek at CR309a, Salt Creek at CR307 and Florida River at CR307. Sampling at each site occurs every two weeks from May to December, for a total of 20 sampling visits to each site. Water samples are analyzed for levels of Total Nitrogen, Total Phosphorus, and E. coli. Turbidity is also measured.

3. Bureau of Reclamation

Contact:

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The Bureau of Reclamation conducts water sampling and analysis on the Animas River at the following locations in Durango:

- 32nd Street bridge (quarterly)
- 9th Street bridge (monthly)
- Santa Rita Park (monthly)
- BMX track bridge approximately 1/2 mile downstream of Santa Rita Park (monthly)
- and also in Farmington at the bridge just upstream of Animas/San Juan confluence.

Our office in Farmington conducts sampling on the San Juan River at various locations and I can get you that if you need it. Let me know if you need any additional information.

4.City of Durango

Contact: Dave Ferguson, Water Treatment Superintendent, Utilities Department

City of Durango 970-375-4887 Dave.Ferguson@durangogov.org

The City of Durango provided metals monitoring results required by Colorado Department of Public Health and Environment (CDPHE), Drinking Water Compliance Assurance Section, for potable water produced after the Gold King Mine spill event. The purpose of the increased sampling was to determine if the mine spill had any effect on the finished water quality of the City of Durango Public Water System. The City reported that they pumped very little (16.76 MG) from the Animas River after the spill and that the pumping season is now over. They also provided in-house (not certified) monitoring results from the Animas River during post spill pumping operations. Both are available upon request. The City did not sample any sediment from the Animas River bed.

5.Colorado Department of Public Health and Environment

CDPHE has a routine monitoring station on the upper Animas River near Silverton below Mineral Creek that is sampled every other month. In response to the spill, CDPHE added another site to be collected on the same date as the Animas station. This second site is located at the mouth of Cement Creek. Testing includes field parameters, nutrients and a suite of metals.

- ✓ General page on the Gold King incident: <https://www.colorado.gov/pacific/cdphe/animas-river-spill>.

6. Colorado Parks and Wildlife

Provided to the group by Matt Thorpe and Barb Horn, Colorado Parks and Wildlife (CPW)

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Water and Fish Monitoring Summary October 2015

Fish – CPW schedules periodic sampling of the fishery from above Silverton to the state line. Sampling has occurred about every five years since the Animas Stakeholders Group began remediation efforts (20 years or so). Data from these events, stocking information and data from sampling efforts around the Gold King Mine spill is available as it is finalized. CPW collects fish for respective agencies to conduct fish tissue analyses for public health evaluation by request. CPW has conducted fish tissue analyses and toxicity tests on the Animas and in other similar rivers to study the impact of elevated metals on fish health. Historic study results are compiled and available via Animas River Stakeholder Group reports. Macroinvertebrates and Physical Habitat – is part of the River Watch (RW) Program but not part of CPW regular monitoring protocol. CPW has supported the Animas River Stakeholders macroinvertebrate monitoring efforts and currently do not have a bug biological monitoring effort.

Water Quality – sampling is completed through the River Watch Program (RW) whether that is from CPW staff or trained and certified RW Volunteers. RW has helped with special studies that are short term in either time or space that helped determine contamination extent, develop restoration goals, and monitor remediation projects for example, thus more data and stations exist in the RW database than baseline monitoring.

RW's larger contribution is the baseline long term monitoring since summer of 2002 the below sites. RW will continue to monitor the following sites monthly for field (pH, temperature, alkalinity and hardness) and total and dissolved metals (13), hi/low flow nutrients (nitrate-nitrite, ammonia, total phosphorus, chloride, sulfate and TSS) for upper stations and monthly for lower stations (Baker's Bridge to Weaselskin). We have added stations when needed as well, such as Howardsville, this past year. All sites were selected in working with the Animas River Stakeholders Group and/or interests of volunteers. Protocols and reporting limits follow for the most part CDPHE-WQCD field and laboratory. Laboratory samples are analyzed in CPW Fort Collins Research Center. Data has been provided to Animas Stakeholders Group, WQCD in basin and Regulation 93 hearing data calls, uploaded to the Colorado Data Sharing Network and EPA STORET and is available on CPW's website or by request as well. The price for volunteer data is time and data is not available for several months after collection.

Mainstem Sites	Tributaries
Howardsville, A68	Mineral Cr (at gauge)
13th St Br	Cement Cr (at gauge)
Above A72	Cascade Cr (Hwy 550)
A72	Lightner Cr (at mouth)- also by Wildcat Canyon
Baker's Br	Hermosa Cr (monitoring ended 9/2015)
Trimble Ln Br	Long Hollow (above La Plata Conf)
32nd St	La Plata (above and below Long Hollow Conf)

Hatchery
ANIDURCO
High Bridge
Weasleskin Bridge

In addition to the River Watch group, local CPW will continue to monitor fish populations in the Animas River. Various locations are sampled on the river by electrofishing to determine the presence/absence, size and weight of various fish species. From this information, our aquatic biologist, Jim White, is able to estimate the size, abundance, and overall quality of fish in the river. We have been monitoring the river for many years, so we are able to compare to previous years and identify any trends for the fishery. Jim White is our aquatic biologist and his email is j.white@state.co.us

7. Environmental Protection Agency

Contact: Cynthia Peterson
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- ✓ General Gold King Web site: <http://www2.epa.gov/goldkingmine>.
- ✓ FAQ Document: <http://www2.epa.gov/goldkingmine/frequent-questions-related-gold-king-mine-response>.
- ✓ Data for Colorado (map and sampling data) : <http://www2.epa.gov/goldkingmine/data-gold-king-mine-response>.
- ✓ EPA's Draft Conceptual Monitoring Plan. <http://www2.epa.gov/goldkingmine/september-17-2015-epa-seeks-input-draft-monitoring-plan-following-gold-king-mine>.

8. Fort Lewis College

Provided by Heidi Setzler, Fort Lewis College Professor
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An interdisciplinary group of faculty at FLC (chemistry, biology, environmental studies) sampled soils and plants from several Animas Valley Farms in Sept/Oct 2015. This was done to ensure at least some crop samples from 2015 were collected to determine heavy metal concentrations. The impact of the spill on produce cannot be determined, but samples can help us understand heavy metal concentrations in plants and soil, beginning in the year of the spill.

9. La Plata County

Contact: Leslie Jakoby – Public Works – 970-382-6376, Leslie.Jakoby@co.laplata.co.us

La Plata County has conducted third party independent sampling during the Gold King release. Samples include sediment, water column, and mine discharge. La Plata County has also reviewed and commented on sampling plans prepared by EPA, documents prepared by EPA, and sampling results collected by EPA, CDPHE and others. La Plata County continues engagement with EPA and area stakeholders through participation in meetings with EPA leadership and community advisory groups.

10. Mountain Studies Institute (MSI)

Contact: 970- 387- 5161

Mountain Studies Institute (MSI) conducted water quality monitoring at Rotary Park and benthic macroinvertebrate sampling before, during, and after the plume at multiple locations from Durango to Silverton. Daily water quality samples were taken until September 30th and storm events were sampled through October 26th with funding support from the EPA. MSI will be releasing graphs and a summary of the storm water data in the coming weeks. The benthic macroinvertebrate community and tissue analysis will be available in early 2016. MSI is seeking partnerships and funding to continue science communication and monitoring of special hydrograph events through next year.

INFO@MOUNTAINSTUDIES.ORG

- ✓ MSI conducted river monitoring through October and will be presenting their results. Find out more at: <http://www.mountainstudies.org/goldkingspill>.
- ✓ Explanatory document with graphs re: sampling done in August at Rotary Park in Durango: <http://static1.squarespace.com/static/53bc5871e4b095b6a42949b4/t/55e254ebe4b02c93b1bf8f8c/1440896235272/MSI+Rotary+Results+2015.08.28v3%5B1%5D.pdf>.

11. San Juan Basin Health Department

Contact: Brian Devine, Environmental Health Communications

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The SJBHD does well testing only for bacteria as the agency does not have the capacity to test for heavy metals. For more comprehensive testing, including SJBHD's recommended annual testing, the state has a list of certified Safe Drinking Water laboratories (contact Brian to get this list). Green Analytical, in Bodo Park, www.greenanalytical.com, 970-247-4220 is the only local well tester. The SJBHD has a list of suggested tests to run. Contact Brian for a "Private Well FAQs" or find it on their Web site: <http://sjbhd.org/public-health-news/gold-king-mine-incident/>. Also, www.wellowner.org is also a good resource but has more national-level information.

12. Other entities that do monitoring: USFS, BLM and Ute Tribe.